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动物分类学报

中国齿足条蜂亚属一新种记述 (膜翅目，蜜蜂总科，蜜蜂科)

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摘　要　记述中国昆仑山脉中齿足条蜂亚属 *Petalosternon* 1新种，纳赤台条蜂 *Anthophora* (*Petalosternon*) *nachitaiensis* sp. nov.；同时给出中国齿足条蜂亚属6个物种雄性的分种检索表。新种模式标本保存于中国科学院动物研究所动物标本馆。

关键词　蜜蜂科，齿足条蜂亚属，新种，中国.
中图分类号　Q969.557.7

齿足条蜂亚属 *Petalosternon* 为条蜂属 *Anthophora* (蜜蜂科 Apidae 条蜂族 Anthophorini) 14个亚属之一 (Michener, 2000)，目前世界已知21种 (Brooks, 1988; Michener, 2000)，分布于地中海，向东至蒙古东南部。该亚属我国分布有6种，以蒙新区为主，向南延至北京 (吴燕如，2000)。

亚属征　体长10.0~ 12.5 mm。雌性触角第1鞭节等于2.5~ 4.3节之和；颜面黑色；颚眼距宽为长的3.0~ 6.3倍；唇瓣顶端具若干指状叶。雄性颜面具浅色斑；上唇端缘具3小叶状突；后足腿节或胫节、跗节具齿状突起；无胫基板；第7背板顶端具2亚中齿，有时有中纵脊；第6腹板端缘具深凹，第7腹板的腹突具侧突，第8腹板顶端具宽凹，顶侧呈角状；生殖基节顶端特化。

记述了采自青海格尔木昆仑山脉的齿足条蜂亚属1新种，纳赤台条蜂 *A.* (*P.*) *nachitaiensis* sp. nov.，同时给出中国齿足条蜂亚属6个物种雄性的分种检索表。模式标本保存于中国科学院动物研究所动物标本馆。

纳赤台条蜂，新种 Anthophora (Petalosternon) nachitaiensis **sp. nov.** (图1~ 8)

雄性体长10 mm；体中型。

头部、胸部、腹部第1节背板及各足外表面密被白色长毛；中胸盾片基半部杂少许黑褐色长毛；前足胫节及中足胫节毛浅金黄色；前足跗节、中足第1~ 4跗节及后足第1~ 4跗节内侧毛金黄色；中足端跗节及后足端跗节内侧毛白色，外侧毛黑褐色；后足胫节黑褐色短毛；腹部第2~ 6节背板被稀的白色毛。

上唇 (除基部两侧各1圆的黑褐色斑)、唇基 (除两侧各具1细黑斑)、眼侧区内侧端缘、额唇基区的横斑、触角柄节前表面均为黄色；中胸盾片具铜绿色金属光泽；翅基片、小盾片、并胸腹节、腹部第1节背板具蓝绿色金属光泽；后盾片具赤褐色金属光泽；翅无色透明，翅脉黑褐色；腹部第2~ 6节背板及各足腿节、胫节、端跗节外表面具暗蓝色金属光泽；各足内表面及第1~ 4节跗节外表面黑褐色，无金属光泽。

头宽大于长，等于胸宽；颊最宽处显著窄于复眼宽；上颚1齿尖；唇基强隆起；上唇端缘中央凹陷，点刻粗大且稀，不规则分布；触角长，达并胸腹节；柄节中部外表面隆起，内表面凹陷；鞭节末端截断状，各节内表面隆起；中胸盾片、小盾片及后盾片表面光滑闪光，点刻极细；小盾片长，其长度为后盾片长度的5倍左右；小盾片、后盾片及并胸腹节几处于同一平面 (侧面观)；并胸腹节基部无纵皱；后足腿节稍膨大，外表面隆起，内表面凹陷；后足基跗节宽，其长度为宽的2倍 (不包括齿)，内侧面距基部2/3处具1齿突 (图4)；前足端跗节稍膨大，中足端跗节极膨大 (图3)，后足端跗节稍膨大且长。

腹部宽扁，第2节最宽，后几节逐渐变窄；腹部各节背板点刻极细，中部稍稀两侧较密；第7背板端缘平直，中部稍凹陷 (图5)；第7~ 8腹板及生殖节见图6~ 8。

雌性：未知。

正模　♂，中国青海格尔木纳赤台，2007-07-08,

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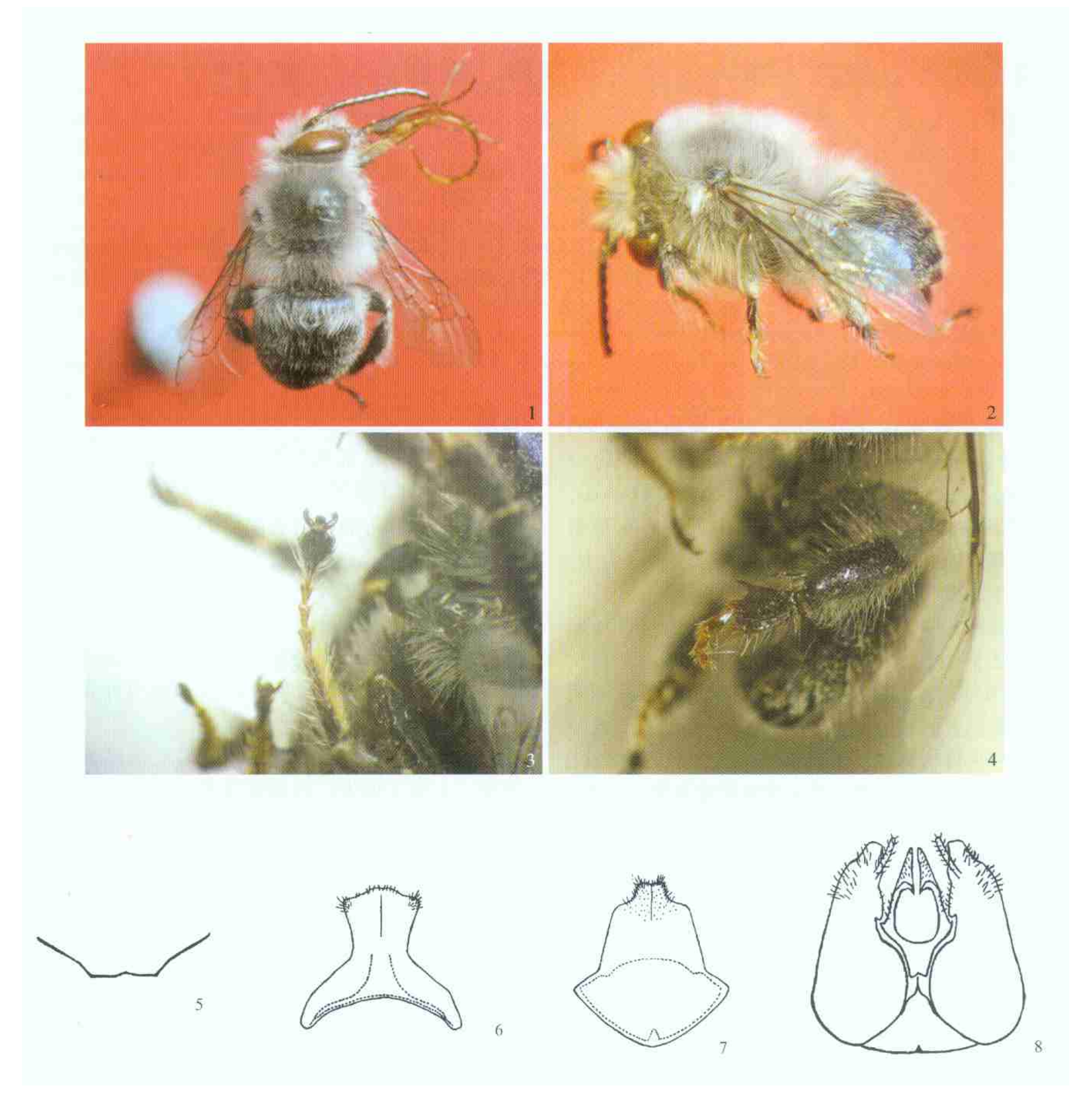


图 1~ 8 纳赤台条蜂, 新种 *Anthophora* (*Petalostemon*) *nachitaiensis* sp. nov.
1. 整体背面观 (body in dorsal view) 2. 整体侧面观 (body in lateral view) 3. 中足端跗节 (distitarsus of middle leg in lateral view) 4. 后足基跗节 (basitarsus of hind leg in lateral view) 5. 第 7 背板 (T7 of the male in ventral view) 6. 第 7 腹板 (S7 of the male in ventral view) 7. 第 8 腹板 (S8 of the male in ventral view) 8. 生殖节 (genital segment of the male in ventral view)

3 700 m, 黄海荣采。

分布: 青海。

采访植物: 未知。

词源: 该种以模式标本采集地纳赤台 Nachitai 命名。

讨论 新种与汉森条蜂 *A*. (*P*.) *hansenii* 相似, 但差别明显: 1) 体被金属光泽; 后者体不具金属光泽; 2) 颜面奶黄色; 后者颜面乳白色。

中国齿足条蜂亚属物种检索表

雄性 (♂)

1 后足腿节特化, 顶端有 1 弯钝齿, 中部具 1 大齿, 两齿间呈弧形; 后基跗节正常, 内侧不具齿突或膨大或较长; 体长 10.5~ 11.0 mm …………………………… 白颜条蜂 A. (P.) albifacies **Alfken**

后足腿节正常, 顶端无齿; 后足基跗节宽, 内侧特化, 具齿突或膨大或较长 ……………………………………………………………… 2

2 后足基跗节特化, 内侧具齿 ……………………………………………… 3

后足基跗节内侧不具齿, 但膨大或较长 ………………………… 5

3 后足基跗节内侧距基部 2/3 处具 1 齿突（图 3）；中足端跗节极膨大（图 3）；体具金属光泽（图 1～2）；胸部被白毛杂有黑毛；体长 10 mm …… 纳赤台条蜂，新种 A.（P.）nachitaiensis **sp. nov.**
后足基跗节内侧齿突不在 2/3 处；中足端跗节正常；腹部偶见铜色光泽 …………………………………………………………… 4
4 后足基跗节内侧中部具 1 齿突；胸部被白毛杂有黑毛；腹部第 2～6 节背板端缘具白毛带；体长 8～9 mm ……………………… ……………………… 汉森条蜂 A.（P.）hansenii **Morawitz**
后足基跗节端部内侧距基部 2/3 处具 1 齿突，顶端也具 1 齿突，两齿突间呈弧状凹；胸部被黄褐色毛；腹部偶见铜色光泽，不具毛带，第 1～3 节背板被白毛，第 4～7 节被稀的黑褐色毛；体长 10.5～12.0 mm ………… 铜腹条蜂 A.（P.）aeneiventris **Hedicke**
5 后足基跗节端半部明显宽大；胸部被灰白色毛；腹部背板被白毛，第 1～4 节背板端缘形成白毛带；体长 9～10 mm ………… ……………………………… 棒跗条蜂 A.（P.）clavitarsis **Wu**
后足基跗节长为宽的 4 倍；体被白色毛；腹部第 2～6 节背板端缘具宽的白毛带；体长 8.0～8.5 mm ……………………………… ……………………………… 无戎条蜂 A.（P.）anoplura **Wu**

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A NEW SPECIES OF THE SUBGENUS PETALOSTERNON (HYMENOPTERA, APOIDEA, APIDAE) FROM CHINA

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Abstract *Anthophora* (*Petalosternon*) *nachitaiensis* sp. nov. is described from Kunlun Mountains. A key is given to males of Chinese species of the subgenus *Petalosternon*. The holotype is deposited in the Institute of Zoology, Chinese Academy of Sciences, Beijing.

Anthophora (Petalosternon) nachitaiensis **sp. nov.** (Figs. 1-8)

Male. Body moderate sized, length 10 mm.

Head, thorax, T1 and outer side of all legs with long white hairs; the basal part of the mesoscutum with some long blackish brown hairs; fore and mid tibiae with light-golden hairs; the inner side of fore tarsi, 1-4 middle tarsomeres and 1-4 hind tarsomeres with golden hairs; the inner side of middle distitarsus and hind distitarsus with white hairs, outer side of which with blackish brown hairs; hind tibiae with blackish brown short hairs; T2-T6 with sparse white hairs.

Following parts of head yellow: labrum (except for a blackish brown spot at the basal part of each side), clypeus (except for a black spot at each side), inner apex of the para-ocular area, transverse spot on the supraclypeal area, outer side of scape; mesoscutum aerugo with metallic reflections; stigma, scutellum, propodeum and T1 with bluish green metallic reflections; metanotum purple-brown with metallic reflections; all wings translucent, veins of forewing strong brown; outer side of T2-T6 and all femora, tibiae, distitarsi dull blue with metallic reflections; the inner side of all legs and the outer side of 1-4 tarsomeres strong brown, without metallic reflections.

Head wider than long, but as wide as to thorax; compound eyes wider than gena in lateral view of head; each mandible with one pointed tooth; clypeus strongly convex; frontal labrum concave, labrum with sparse and irregular punctures; antennae long, reaching propodeum; the outer side scape convex in the middle, inner side of it concave; flagellum truncate apically, inner side of each flagellum convex; the surface of mesoscutum, scutellum and metanotum smooth and shiny, with slight punctures; scutellum long, 5 times longer than metanotum; scutellum, metanotum and propodeum at the same plane (lateral view); basal part of propodeum without rugae; hind femora slightly strong, with the outer side convex, inner side concave; hind basitarsomeres wide, 2 times longer than wide (except for the produced tooth), the inner side of hind basitarsomeres with one produced tooth at 2/3 from the base (Fig. 4); fore distitarsomeres slightly enlarged; middle distitarsomeres strongly enlarged (Fig. 3), hind distitarsomeres slightly enlarged and long.

The metasoma broad and flat, T2 is the widest, the last segments become slenderer; all terga of metasoma with slight punctures, sparse in central area and dense in the both edge sides; lateral extremity of T7 (Fig. 5) flat, but slightly concave in the middle; T7-T8 and genital segment see Figs. 6-8.

This species is similar to *A.* (*P.*) *hansenii*, but it can be distinguished from the latter by following features: 1) body with metallic reflections; 2) face yellow.

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Holotype ♂, Nachitai, Geermu, Qinghai Province, 3 700 m, 8 July 2007, HUANG Hai-Rong.

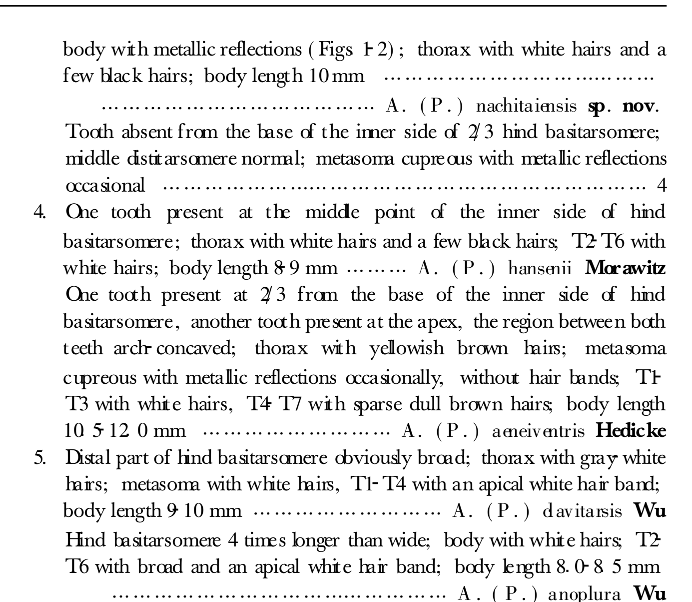
Distribution. China, Qinghai.

Floral associations. Unknown.

Etymology. The name of the new species is derived from the locality where the holotype was collected.

Key to males in the subgenus of Petalosternon

1. Hind femur specialized, with one crenate tooth produced at the apex, another bigger tooth in the middle, regions between both teeth arch-shaped; hind basitarsomere normal, without tooth or enlarged or much more longer in the inner side; body length 10.5-11.0 mm ………………………………………………………… A. (P.) albifacies **Alfken**
   Hind femur normal, without tooth at the apex; hind basitarsomere broad, with a tooth or enlarged or much more longer in the inner side ……………………………………………………………… 2
2. Hind basitarsomere specialized, with a tooth at the inner side ……… 3
   Inner side of hind basitarsomere without tooth, but enlarged or much more longer ……………………………………………………………… 5
3. One tooth present at 2/3 from the base of the inner side of hind basitarsomere (Fig. 3); middle distitarsomere strongly enlarged (Fig. 3);



body with metallic reflections (Figs 1-2); thorax with white hairs and a few black hairs; body length 10 mm ………………………………………………………… A. (P.) nachitaiensis **sp. nov.**
   Tooth absent from the base of the inner side of 2/3 hind basitarsomere; middle distitarsomere normal; metasoma cupreous with metallic reflections occasional ……………………………………………………………… 4
4. One tooth present at the middle point of the inner side of hind basitarsomere; thorax with white hairs and a few black hairs; T2-T6 with white hairs; body length 8-9 mm ……… A. (P.) hansenii **Morawitz**
   One tooth present at 2/3 from the base of the inner side of hind basitarsomere, another tooth present at the apex, the region between both teeth arch-concaved; thorax with yellowish brown hairs; metasoma cupreous with metallic reflections occasionally, without hair bands; T1-T3 with white hairs, T4-T7 with sparse dull brown hairs; body length 10.5-12.0 mm ……………………… A. (P.) aeneiventris **Hedicke**
5. Distal part of hind basitarsomere obviously broad; thorax with gray-white hairs; metasoma with white hairs, T1-T4 with an apical white hair band; body length 9-10 mm ……………………… A. (P.) clavitarsis **Wu**
   Hind basitarsomere 4 times longer than wide; body with white hairs; T2-T6 with broad and an apical white hair band; body length 8.0-8.5 mm ………………………………………… A. (P.) anoplura **Wu**

Key words Apidae, *Petalosternon*, new species, China.